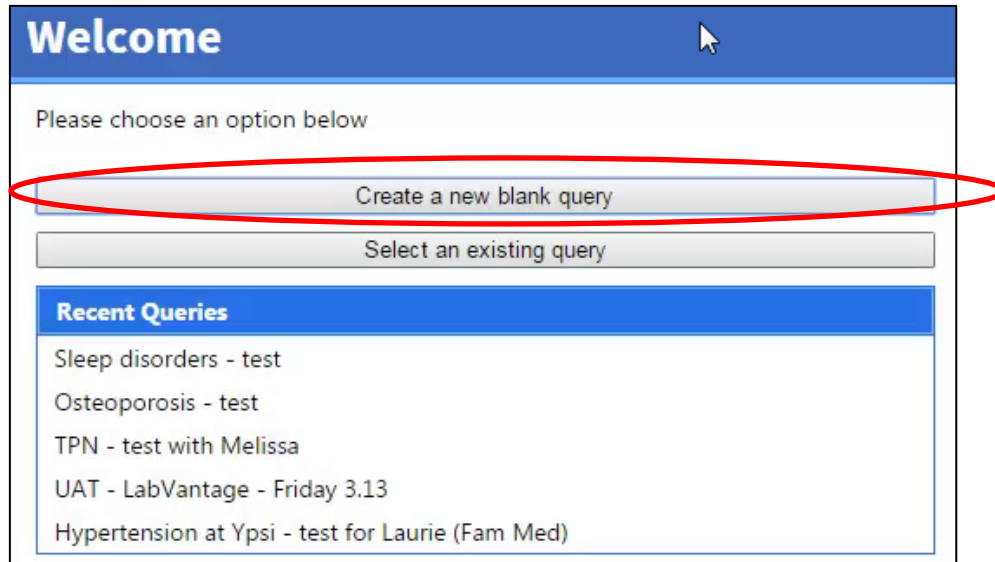


Creating a New Query (Cohort Mode)

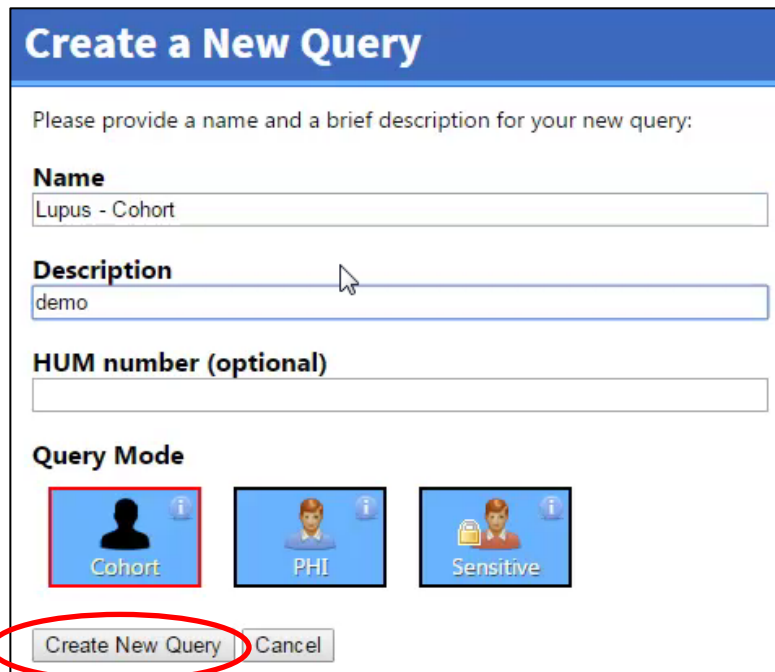
Upon logging in, select **Create a new blank query** to proceed (or **Select an existing query** to use a previously created query).



The screenshot shows a 'Welcome' interface with a blue header. Below the header, it says 'Please choose an option below'. There are two buttons: 'Create a new blank query' and 'Select an existing query'. The 'Create a new blank query' button is circled in red. Below these buttons is a section titled 'Recent Queries' with a blue header, listing several queries: 'Sleep disorders - test', 'Osteoporosis - test', 'TPN - test with Melissa', 'UAT - LabVantage - Friday 3.13', and 'Hypertension at Ypsi - test for Laurie (Fam Med)'.

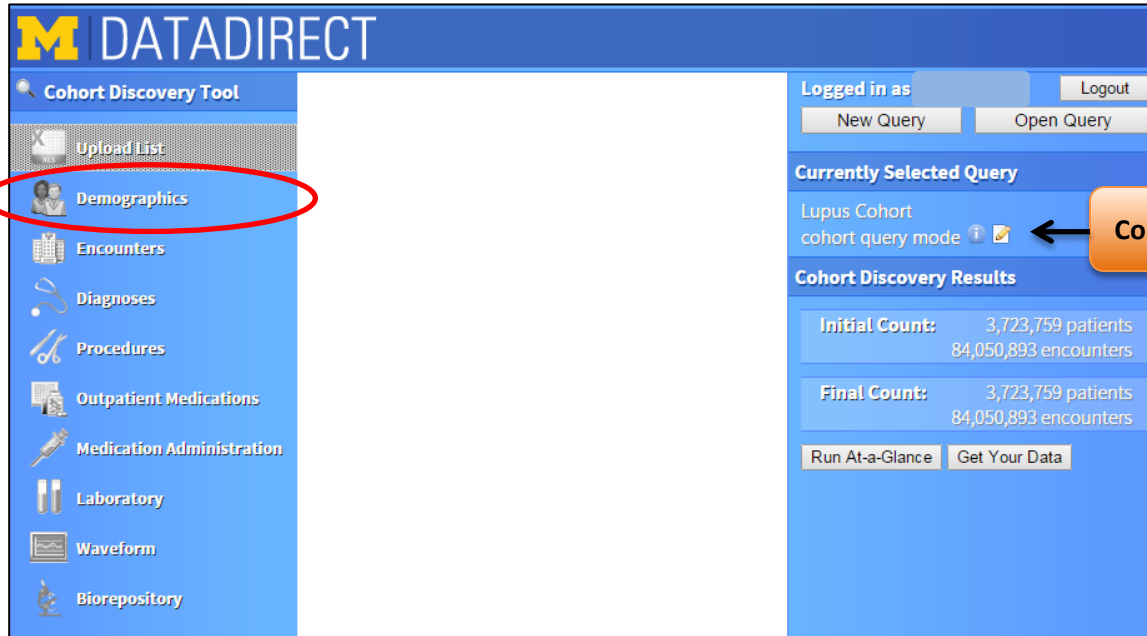
Enter a name and description for your query, then click **Create New Query**.

**Cohort Mode
does NOT
require HUM
Number.**



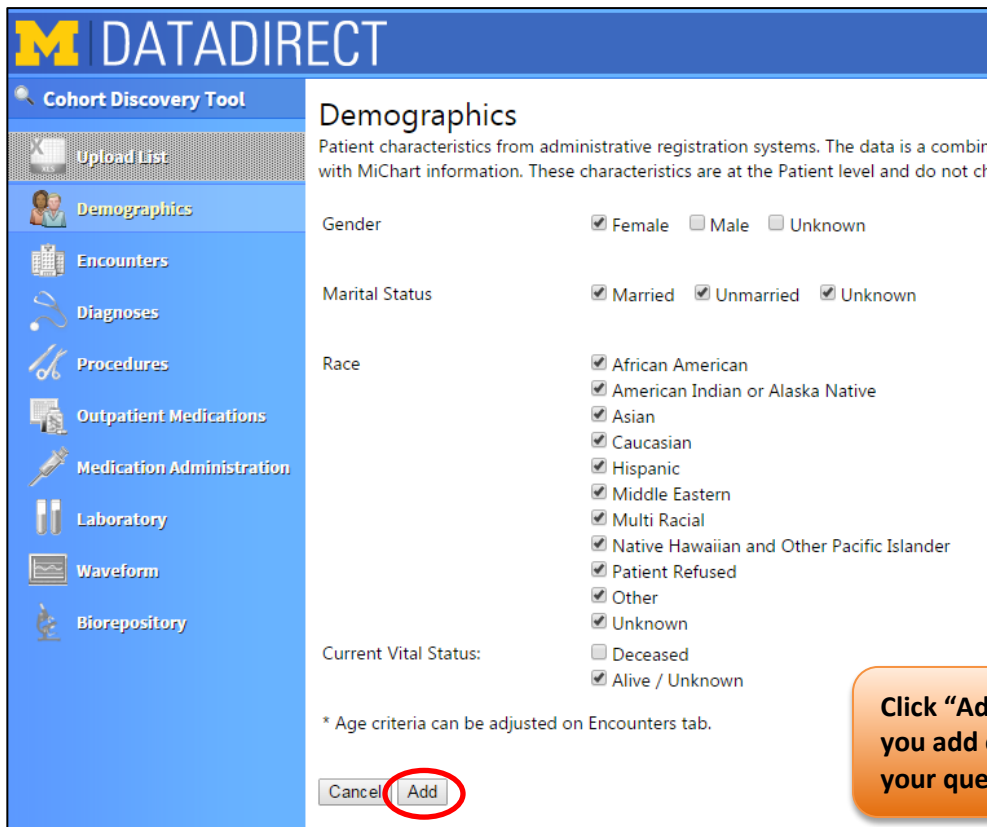
The screenshot shows the 'Create a New Query' form with a blue header. It asks the user to 'Please provide a name and a brief description for your new query:'. There are three input fields: 'Name' (containing 'Lupus - Cohort'), 'Description' (containing 'demo'), and 'HUM number (optional)'. Below these fields is the 'Query Mode' section with three buttons: 'Cohort' (with a person icon), 'PHI' (with a person icon and a lock), and 'Sensitive' (with a person icon and a lock). The 'Cohort' button is highlighted with a red border. At the bottom, there are two buttons: 'Create New Query' (circled in red) and 'Cancel'.

From the filters listed in the left panel, select a filter, for example, **Demographics**, to begin defining criteria for your query.



Demographics are *patient-level* characteristics available from the administrative registration systems (**not** encounter-level data, in other words, they do not change from one encounter to another).

Select the checkboxes beside the characteristics to *include* in your query. De-select items you do **not** wish to include. For example, to find only Female patients, de-select Male and Unknown under Gender. Click **Add** to *add* these criteria to your query.



Cohort Results

As DataDirect retrieves data to match the selected criteria, the right panel of the screen displays aggregate counts. Your query is also saved to your individual profile in DataDirect.

Results include 1) *initial patient and encounter counts*, 2) *saved criteria*, and 3) *final aggregate count of patient data matching your query*. As you build your query, check the right panel to verify that your criteria have been added.

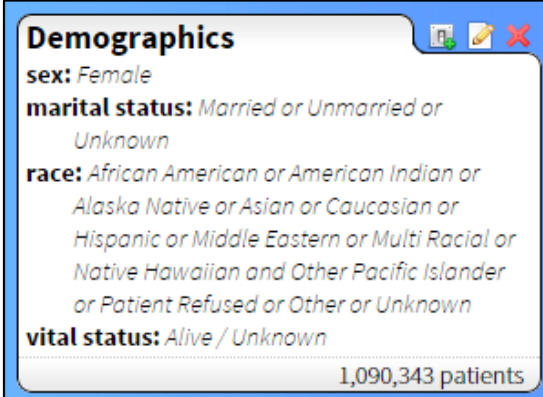
Initial patient & encounter counts

Saved Criteria

Final aggregate count

Modifying a Filter (Enable/Disable, Edit and Remove)

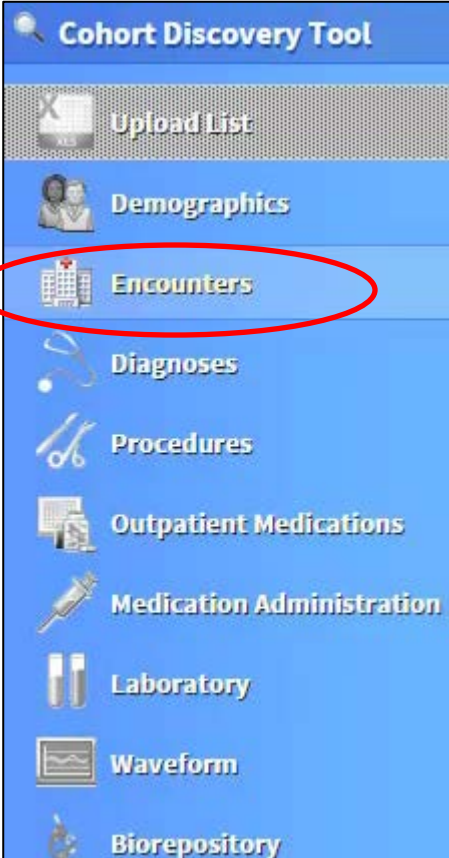
At any time, you may enable/disable, edit or remove an individual filter from your query.



Demographics
sex: Female
marital status: Married or Unmarried or Unknown
race: African American or American Indian or Alaska Native or Asian or Caucasian or Hispanic or Middle Eastern or Multi Racial or Native Hawaiian and Other Pacific Islander or Patient Refused or Other or Unknown
vital status: Alive / Unknown
1,090,343 patients

Enable/disable, Edit & Remove icons

To continue to build your query, select an additional filter category, for example, **Encounters**.



Cohort Discovery Tool

- Upload List
- Demographics
- Encounters**
- Diagnoses
- Procedures
- Outpatient Medications
- Medication Administration
- Laboratory
- Waveform
- Biorepository



Tip: Begin typing to filter the selection criteria. For example, in the Inpatient Service Location field, type 5D to narrow your search. DataDirect includes aliases for locations, e.g., 8D5 or SICU.

Click or highlight the item to select it for a field.

Encounters

Inpatient, outpatient, and emergency department encounter characteristics from administrative registration systems. The data is a combination of historical data from HSDW starting in 2000 to real time admission and visit data consistent with MiChart information. These characteristics may change from one encounter to another and reflect the information known at the time of that encounter. [Click here for more details](#)

* Please note that outpatient encounter location data is being reviewed to create an easy-to-use searching algorithm and will be available in early 2015

Admit date / visit date: 01/01/2000 to 03/30/2015

Age at the Date of Service: 0 year(s) to 150 year(s)

Patient Class

- Emergency
- Inpatient
- Outpatient
- Preadmit
- Other

Inpatient Service Location

5d

5D 24858 times
8DNS, 8DS, SICU, 8D, 8DB1

Primary Provider (search by name, pager #)

No provider has been selected

Review the updated result panel on the right side of the screen each time you click “Add” to note the additional criteria have been *saved* to your query. In this example, both Demographics and Encounter criteria have been added to the query, and an aggregate count has been generated:

Currently Selected Query
Lupus Cohort
cohort query mode ⓘ 📄

Cohort Discovery Results

Initial Count: 3,723,978 patients
84,062,528 encounters

Demographics ⓘ 📄 ✕
sex: Female
marital status: Married or Unmarried or Unknown
race: African American or American Indian or Alaska Native or Asian or Caucasian or Hispanic or Middle Eastern or Multi Racial or Native Hawaiian and Other Pacific Islander or Patient Refused or Other or Unknown
vital status: Alive / Unknown
1,090,343 patients

Encounters ⓘ 📄 ✕
date of service: 01/01/2013 - 01/01/2015
age at date of service: 30 years - 150 years
type: Emergency or Inpatient or Outpatient or Preadmit or Other
location: none specified
provider: none specified
305,401 patients
12,365,551 encounters

Final Count: 305,401 patients
12,365,551 encounters

Run At-a-Glance | Get Your Data

Select **Diagnosis**, and begin typing the desired diagnosis name (or associated ICD-9 code) into the Diagnosis Code field. Highlight the code you desire, then click **Add Selected**.

Diagnoses
 Inpatient, ED, and outpatient ICD9 diagnoses derived from the billing process. ICD9 diagnoses data are available from 2006 to the first of the previous month.
[Click here for more details](#)
 * Please note that problem summary list diagnoses listed in MiChart are not currently available, but will be available in mid 2015

Facility: [dropdown]

Diagnosis code or description: lupus

0 item(s) selected **Add Selected**

Top Result

Systemic lupus erythematosus [710.0]	141382 times
Lupus erythematosus [695.4]	8083 times
Discoid lupus erythematosus of eyelid [373.34]	35 times

Discharge Diagnoses

Discoid lupus erythematosus of eyelid [373.34]	35 times
Lupus erythematosus [695.4]	8083 times
Systemic lupus erythematosus [710.0]	141382 times

Top Results – most frequent

Alphabetic listing

Inclusion/Exclusion

Include selected diagnoses

No diagnoses have been selected

Cancel Add

As you select a diagnosis code, the 'parent' ICD-9 code and its associated 'child' ICD-9 codes will be displayed and automatically **included**. De-select (click the red X) any individual code you wish to remove from the suggested list. "Inclusion" is the default selection.

* Show ICD9 hierarchy

Inclusion/Exclusion

Include selected diagnoses

Systemic lupus erythematosus [710.0]

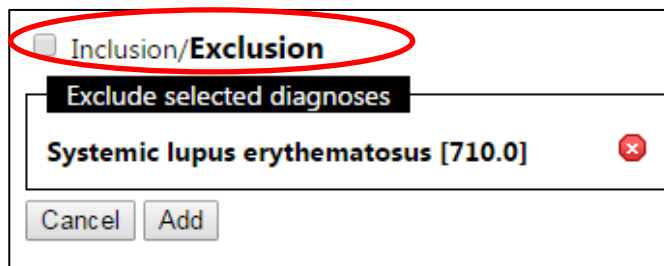
- Systemic sclerosis [710.1]
- Sicca syndrome [710.2]
- Dermatomyositis [710.3]
- Polymyositis [710.4]
- Eosinophilia myalgia syndrome [710.5]
- Other specified diffuse diseases of connective tissue [710.8]
- Unspecified diffuse connective tissue disease [710.9]

Cancel **Add**

Tip: *Remember, click **Add** with each criteria addition or modification to save it to your query.

Exclusions

To **exclude** a characteristic in your query (e.g., run a query to retrieve patients who do NOT have Lupus), you must “UNCHECK” the Inclusion / Exclusion checkbox. When the box is **unchecked**, the indicator “Exclusion” appears in bold print.



Inclusion/**Exclusion**

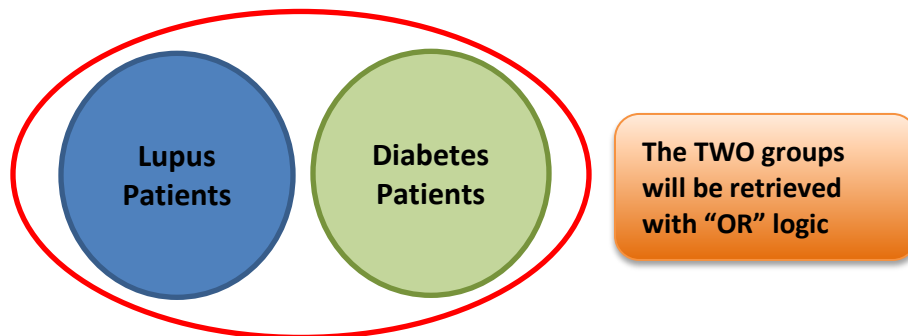
Exclude selected diagnoses

Systemic lupus erythematosus [710.0] ✕

Cancel Add

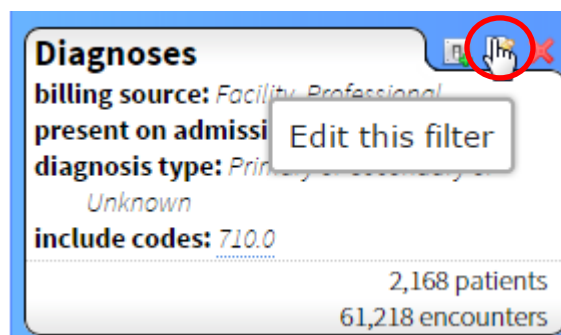
“Or” Logic

You may be interested in patients who have **either** one condition **or** a second condition. For example, if you were interested in Patients with Lupus **OR** Patients with Diabetes, use “OR” logic.



To achieve this, include the Diabetes criteria in the “same criteria box” as the Lupus diagnoses.

Open the existing Diagnoses query for Lupus. Click the **Edit** icon  to edit the Diagnoses filter.



Diagnoses

billing source: Facility Professional

present on admission

diagnosis type: Primary

Unknown

include codes: 710.0

2,168 patients

61,218 encounters

Edit this filter

Enter the second criteria, e.g., Diabetes. Select the desired code(s) by clicking **Add Selected**.

Diagnoses

Inpatient, ED, and outpatient ICD9 diagnoses derived from the billing process. ICD9 diagnoses data are available from 2006 to the first of the previous month.

[Click here for more details](#)

* Please note that problem summary list diagnoses listed in MiChart are not currently available, but will be available in mid 2015

Billing source [Search all sources] ▾

Diagnosis code or description diabetes

Present on admission

Diagnosis Type

* Show ICD9 hierarchy

Inclusion/Exclusion

Include selected diagnoses

Systemic lupus erythematosus

Cancel Add

0 item(s) selected **Add Selected**

Top Result

<input type="checkbox"/> Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled [250.00]	912577 times
<input type="checkbox"/> Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncontrolled [250.01]	172548 times
<input type="checkbox"/> Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled [250.02]	161839 times
<input type="checkbox"/> Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled [250.60]	87087 times

Discharge Diagnoses

<input type="checkbox"/> Diabetes insipidus [253.5]	4253 times
<input type="checkbox"/> Diabetes mellitus [250]	1 times
<input type="checkbox"/> Diabetes mellitus complicating pregnancy, childbirth, or the puerperium [648.0]	0 times
<input type="checkbox"/> Diabetes mellitus of mother, complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication [648.03]	24772 times

91 more...

Remove any "child" ICD9 codes that you do not wish to keep (by clicking the red X for each).

Inclusion/Exclusion

Include selected diagnoses

Systemic lupus erythematosus [710.0]

Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled [250.00]

Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncontrolled [250.01]

Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled [250.02]

Diabetes mellitus without mention of complication, type I [juvenile type], uncontrolled [250.03]

Cancel Update

Click **Update** (both conditions will be listed, as below).

Inclusion/Exclusion

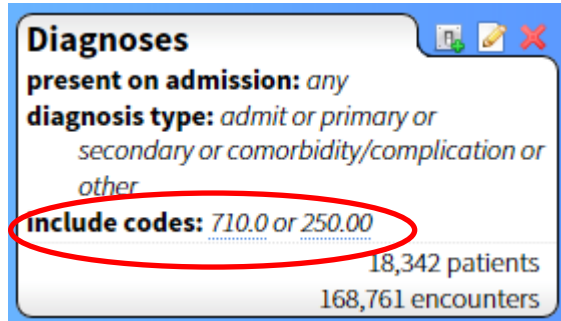
Include selected diagnoses

Systemic lupus erythematosus [710.0]

Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled [250.00]

Cancel **Update**

DataDirect will display the codes within the same 'criteria' box on the right side of the screen, indicating that the retrieved results include patients with code 710.0 (Lupus) **OR** patients with code 250.0 (Diabetes).

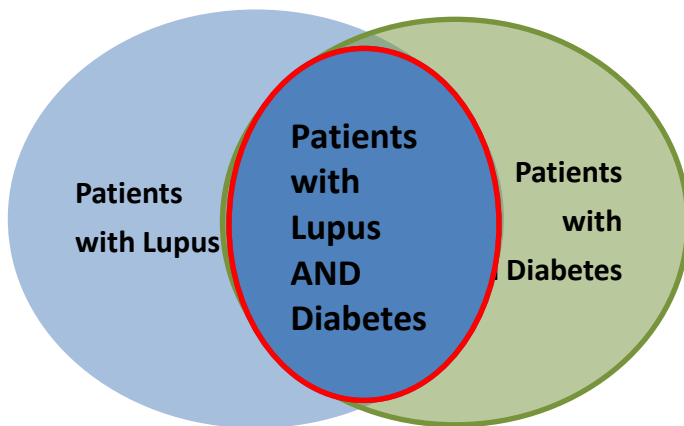


Diagnoses
present on admission: *any*
diagnosis type: *admit or primary or
secondary or comorbidity/complication or
other*
include codes: *710.0 or 250.00*
18,342 patients
168,761 encounters

**Includes
diagnoses codes:
710 (Lupus) OR
250 (Diabetes)**

“And” Logic

In contrast, if you are interested in patients who have BOTH Lupus AND Diabetes diagnoses, use “AND” logic.



Only patients having BOTH Lupus and Diabetes Diagnoses

To find these patients, build two separate filters (one for Lupus, and a separate one for Diabetes). Start with an initial Diagnosis filter including Lupus.

The screenshot shows a query builder interface with three filter panels. The top panel is 'Demographics' with filters for sex, marital status, race, and vital status, resulting in 1,090,343 patients. The middle panel is 'Encounters' with filters for date of service, age at date of service, type, location, and provider, resulting in 305,401 patients and 12,365,551 encounters. The bottom panel is 'Diagnoses' with filters for billing source, present on admission, diagnosis type, and include codes (710.0), resulting in 1,996 patients and 52,158 encounters. A 'Final Count' section at the bottom shows 1,996 patients and 52,158 encounters.

Filter Category	Filters	Count
Demographics	sex: Female marital status: Married or Unmarried or Unknown race: African American or American Indian or Alaska Native or Asian or Caucasian or Hispanic or Middle Eastern or Multi Racial or Native Hawaiian and Other Pacific Islander or Patient Refused or Other or Unknown vital status: Alive / Unknown	1,090,343 patients
Encounters	date of service: 01/01/2013 - 01/01/2015 age at date of service: 30 years - 150 years type: Emergency or Inpatient or Outpatient or Preadmit or Other location: none specified provider: none specified	305,401 patients 12,365,551 encounters
Diagnoses	billing source: Facility present on admission: any diagnosis type: Primary or Secondary or Unknown include codes: 710.0	1,996 patients 52,158 encounters
Final Count		1,996 patients 52,158 encounters

Initial Diagnoses filter for Lupus (code 710)

Build an additional Data Source (Diagnosis) by *returning* to the main filter list. Click **Diagnoses**, enter Diabetes into the Diagnosis code field, and click **Add Selected** to create a *new, separate criteria*.

Cohort Discovery Tool

Diagnoses
 Inpatient, ED, and outpatient ICD9 diagnoses derived from the billing process. ICD9 diagnoses data are available from 2006 to the first of...
[Click here for more details](#)
 * Please note that problem summary list diagnoses listed in MiChart are not currently available, but will be available in mid 2015

Upload List

Demographics

Encounters

Diagnoses

Procedures

Outpatient Medications

Medication Administration

Laboratory

Waveform

Biorepository

Billing source [Search all sources]

Diagnosis code or description diabetes

Present on admission

Diagnosis Type

* Show ICD9 hierarchy

Inclusion/Exclusion

Include selected diagnoses

No diagnoses have been selected

Cancel Add

0 item(s) selected Add Selected

Top Result

- Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled [250.00] 912577 times
- Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncontrolled [250.01] 172548 times
- Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled [250.02] 161839 times
- Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled [250.60] 87087 times

91 more...

Discharge Diagnoses

- Diabetes insipidus [253.5] 4253 times
- Diabetes mellitus [250] 1 times
- Diabetes mellitus complicating pregnancy, childbirth, or the puerperium [648.0] 0 times
- Diabetes mellitus of mother, complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication [648.03] 24772 times

91 more...

After specifying the details (refining your ICD9 codes if desired), click **Add**.

Inclusion/Exclusion

Include selected diagnoses

Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled [250.00] ✕

Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncontrolled [250.01] ✕

Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled [250.02] ✕

Diabetes mellitus without mention of complication, type I [juvenile type], uncontrolled [250.03] ✕

Cancel Add

The additional required criteria appears as a *separate* criteria box in the right hand panel, and the narrowed query results show a far more limited population of patients – only those patients who possess BOTH of the listed diagnosis codes (710 and 250).

Diagnoses
billing source: Facility
present on admission: any
diagnosis type: Primary or Secondary or Unknown
include codes: 710.0
1,996 patients
52,158 encounters

Diagnoses
billing source: Facility
present on admission: any
diagnosis type: Primary or Secondary or Unknown
include codes: 250.00
124 patients
2,305 encounters


Final Count: 124 patients
2,305 encounters

Separate
Diagnoses Criteria
filters represent
“AND” logic –
patients who
have Lupus AND
Diabetes

Each of the displayed criteria boxes in the right-hand panel represents an “AND” statement – in other words, all retrieved patients must possess ALL of these criteria:

The screenshot shows a search criteria panel with four sections, each with an explanatory callout box:

- Demographics:** sex: Female; marital status: Married or Unmarried or Unknown; race: African American or American Indian or Alaska Native or Asian or Caucasian or Hispanic or Middle Eastern or Multi Racial or Native Hawaiian and Other Pacific Islander or Patient Refused or Other or Unknown; vital status: Alive / Unknown. 1,090,343 patients. Callout: Retrieve patients who are Female with these races and Alive/Unknown.
- Encounters:** date of service: 01/01/2013 - 01/01/2015. 12,365,551 encounters. Callout: AND have Encounters with dates of service between 1/1/13 – 1/1/15.
- Diagnoses (Lupus):** billing source: Facility; present on admission: any; diagnosis type: Primary or Secondary or Unknown; include codes: 710.0. 1,996 patients, 52,158 encounters. Callout: AND have Lupus.
- Diagnoses (Diabetes):** billing source: Facility; present on admission: any; diagnosis type: Primary or Secondary or Unknown; include codes: 250.00. 124 patients, 2,305 encounters. Callout: AND have Diabetes.

 **Tip:** Each time that you click **Add**, you are adding a new criteria panel (an ‘AND’ statement to the query).

Continue to build and refine your query using Data Sources on the left-hand panel. Refer to the instructions *inside* each filter panel to determine the source and details for the information available.

If you wish to retrieve data related to Laboratory collections, you may select details for *Ordered* and well as *Resulted* Laboratory tests.

Cohort Discovery Tool

Laboratory

Laboratory data include both ordered and results. There is a live feed of available lab data dating from 2000 to current day. [Click here for more details](#)

UM Pathology
Test Name: adna

0 item(s) selected Add Selected

Exact Match

- ANTI-dsDNA ANTIBODY [Order: ADNA] 72,295 times
- ANTI-dsDNA ANTIBODY [Result: ADNA] 71,058 times

Laboratory Orders laboratory orders in alphabetical order

- ANTI-dsDNA ANTIBODY [Order: ADNA] 72,295 times

Laboratory Results laboratory results in alphabetical order

- ANTI-dsDNA ANTIBODY [Result: ADNA] 71,058 times

Inclusion/Exclusion
Include selected labs
No labs have been selected
Cancel Add

When you select Laboratory *Results* data, you may “include” or “exclude” results within specific value ranges. Note, specifying a value range only works for lab values that are numeric (as opposed to “pos,” “neg”)

Inclusion/Exclusion

Include selected labs

ANTI-dsDNA ANTIBODY [Result: ADNA]

Any Value and

Cancel Add

For each criteria filter you wish to add, click **Add** to save it to your query.